AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS

1. (Currently amended) A method for preparing a carbon composition with enhanced electronic and protonic conductivity comprising
oxidatively polymerizing with an oxidizing agent comprising ozone a monomer of a conducting polymer containing hetero atoms with particulate carbonaceous material to form a conducting polymer-grafted carbonaceous material, wherein either the monomer is sulfonated or the polymer is subsequently sulfonated, to thereby produce a sulfonated conducting polymer-grafted carbonaceous material; and metallizing the conducting polymer-grafted carbonaceous material.
2. (Original) The method of claim 1, wherein the carbonaceous material is carbon black, graphite, nanocarbons, fullerenes, fullerenic material, finely divided carbon, or mixtures thereof.
3. (Original) The method of claim 1, wherein the carbonaceous material is carbon black.
4. (Original) The method of claim 1, wherein the monomer of a conducting polymer is an amino aryl or a nitrogen heterocycle.
5. (Original) The method of claim 1, wherein the oxidatively polymerizing comprises adding ozone to a mixture of the carbonaceous material and the monomer of the conducting polymer.
6. (Original) The method of claim 5, wherein the mixture of the carbonaceous material and the monomer of the conducting polymer further comprises an acid solvent to form a slightly acidic environment.
7. (Original) The method of claim 6, wherein the slightly acidic environment is a pH of about less than 7.
8. (Original) The method of claim 6, wherein the slightly acidic environment is a pH of about 3 to about 4.

9. (Original) The method of claim 1, wherein the conducting polymer is polyaniline, polypyrrole, polyfuran, polythiophene, poly(p-phenylene-oxide), poly(p-phenylene-sulfide), substituted conducting polymers, or a mixture thereof.

10. (Original) The method of claim 1, wherein the polymer is directly sulfonated after oxidatively polymerizing the monomer with the carbonaceous material.

11. (Original) The method of claim 1, wherein the monomer is a sulfonated monomer of the conducting polymer.

12. (Original) The method claim 10, wherein the direct sulfonation is by addition of a sulfonating agent.

13. (Original) The method claim 12, wherein the sulfonating agent is chlorosulfonic acid.

14. (Original) The method claim 12, wherein the sulfonating agent is acetylsulfonic acid.

15. (Canceled)

16. (Currently amended) The method of claim [15] 1, wherein the metallizing comprises adding a metal-containing material to the conducting polymer-grafted carbonaceous material.

17. (Original) The method of claim 16, wherein the metallizing further comprises adding a reducing agent.

18. (Currently amended) The method of claim [15] 1, wherein the metallizing is plantinizing.

19. (Original) The method of claim 17, wherein the reducing agent is formaldehyde, sodium borohydride, hydrogen, hydrazine, hydroxyl amine, or a mixture of reducing agents.

20. (Currently amended) The method of claim 16, wherein the metal-containing material is chloroplatinic acid, platinum nitrate, platinum ~~halides~~ halide, platinum cyanide, platinum sulfide, organoplatinum ~~salts~~ salt, or a mixture thereof.

21. (Canceled)